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ABSTRACT

The development and validation of a shortened and revised version of the Belief in Personal Control Scale (BPCS-RS) are described. Like the original 85-item version of the BPCS, the BPCS-RS measures three empirically derived factors (a belief in general external control of outcomes, an exaggerated belief in personal control of outcomes, and a belief in God-mediated outcomes). The four studies used in the comparative assessment of The BPCS and the BPCS-RS involved: (1) 233 urban university undergraduates; (2) 58 undergraduates; (3) 48 seminary graduate students; and (4) 34 undergraduate psychology students. Correlations between the 85-item BPCS and the 45-item BPCS-RS indicate that the two scales are equivalent. Evidence from a series of studies is presented to support the reliability and validity of the revised scale. It is argued that the BPCS-RS provides an efficient and empirically sound means of assessing several rarely measured dimensions of personal control. Both instruments have the same three-factor structure. Additional evidence for the validity of the exaggerated internal control and God-mediated control factors was provided as well. Two data tables are included. (TJH)

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The Belief in Personal Control Scale: A Revised, Short Form

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Abstract

This paper describes the development and validation of a shortened and revised version of the Belief in Personal Control Scale - the BPCS-RS. Like the original 85 item version of the BPCS, the BPCS-RS measures three empirically derived factors: a belief in general external control of outcomes, an exaggerated belief in personal control of outcomes, and a belief in God-mediated outcomes. Correlations between the 85 item BPCS and the 45 items BPCS-RS indicate that the two scales are equivalent. Evidence from a series of studies is presented to support the reliability and validity of the revised scale. It is argued that the BPCS-RS provides an efficient and empirically sound means of assessing several rarely measured dimensions of personal control.

The Belief in Personal Control Scale: A Revised, Short Form

The eighty-five item Belief in Personal Control Scale (BPCS) (Berrenberg, 1987) was designed to measure several unique dimensions of personal control dimensions that cannot be assessed using either Rotter's popular Internal/External Locus of Control Scale (IE) Robber, 1966) or other existing measures of the construct. The three dimensions of personal control captured by the BPCS include: General External Control, Exaggerated Internal Control and God-Mediated Control.

The General External Control dimension is similar to the IE scale in that it assesses the extent to which an individual believes his/her outcomes are self-produced (internality) as opposed to being produced by luck, fate, or powerful others (externality).

The Exaggerated Control dimension measures an extreme and unrealistic belief in personal control. The IE scale and other measures of personal control are unable to identify extreme internality which has been shown to be related to certain psychopathologies such as mania (Berrenberg, 1987).

The God-mediated dimension measures the belief that God is a powerful agent whose aid can be enlisted in the achievement of outcomes. This dimension allows for the important distinction to be made between individuals who believe that they have little or no control over their outcomes (externals) versus those who

believe they control outcomes indirectly through God. Traditional measures do not make this distinction.

Previous research supports the reliability and validity of the three subscales of the BPCS (Berrenberg, 1987). Furthermore, the subscales have been shown to be differentially predictive of self-esteem, depression, anxiety, mania, etc. Thus, the BPCS has potential value in both research and clinical settings. To date, a major drawback to using the BPCS has been its length. Compared to the 29 item IE scale, the 85 item BPCS is relatively unwieldy to administer in time-limited sessions or as part of a multi-scale battery. This article describes the development and validiation of a shortened and revised form of the BPCS.

Development of the Revised Short Form

Thirty items from the 85 item BPCS with high loadings (.40 or above) on one of the three factors, and/or low redundancy were retained in-tact in the revised short-form BPCS (BPCS-RS). Another 11 high-loading items from the original scale were reworded slightly to improve their clarity. Four new items were written for the God-mediated subscale in an attempt to strengthen that factor. Of the 45 items included in the BPCS-RS, 19 were intended to measure General External control; 17 to measure Exaggerated Control; and 9 to measure God-Mediated control.

As in the original BPCS, the 45 items of the BPCS-RS are rated on on a 5-point scale anchored at each point with always true, often true, sometimes true, rarely true, or never true. In order to avoid a response set, some items are worded in the direction of a high, and others in the direction of a low, belief in personal control. Items are scored such that higher scores indicate a greater belief in direct control over outcomes. The BPCS-RS was administered in a series of studies to several different samples in order to determine its comparability to the original BPCS in terms of factor structure, reliability and validity.

Study I

In Study I the BPCS-RS was administered to a large sample of college students along with a battery of other scales in order to, 1) see if its factor structure was comparable to that of the original BPCS, and 2) provide support for the construct validity of those factors by examining their correlation with theoretically related measures.

Participants and Procedures

Two hundred thirty three urban university undergraduates (135 females and 98 males) with a mean age of 25.84 completed the BPCS-RS and several other measures in order to earn extra course credit. The BPCS-RS, along with five other scales, was

administered to participants in random order in group testing sessions. Participants were told that the study was concerned with individual differences in beliefs and attitudes. Upon completion of all materials they were given a full explanation of the study.

Other Measures

The following scales were administered to participants in order to assess the construct validity of the BPCS-RS: the Internal-External Locus of Control Scale (RLOC (Rotter, 1966); the Taylor Manifest Anxiety Scale (Taylor, 19543); the Feelings of Inadequacy Scale (a measure of self-esteem) (Janis & Field, 1959); and the Mania and Depression scales (Plutchik, Platman, Tilles, & Fieve, 1970). These scales were selected because a) they represent psychometrically sound measures of constructs with a demonstrated, theoretical relationship to personal control, and b) they were used to validate the BPCS and so provide a straightforward means of comparing the BPCS to the BPCS-RS.

Results and Discussion

Factor Analysis

The 45 items of the BPCS-RS were subjected to a principal components factor analysis. Based on an examination of eigen values (see Cattell's Scree Test, 1962) three factors were

extracted for Varimax rotation. Items loading at or above .30 were used to define each factor (see Table 1). There were no instances in which an item loaded at .30 or higher on more than a single factor.

Factor 1, with 18 items accounting for 28.7% of the common variance, is comprised of General External Control items. Factor 2, accounting for 18.6% of the variance, consists of the 17 Exaggerated Internal Control items. Factor 3 accounts for 16.9% of the variance and contains nine God-mediated Control items. The obtained factor structure of the BPCS-RS essentially replicates that found for the 85 item BPCS.

Insert Table 1 about here

Norms and Reliability

Scores for each of the three factors were obtained by adding the ratings of the high loading items. Means and standard deviations for each factor are as follows: General External Control Mean = 68.91, SD = 8.35; Exaggerated Internal Control Mean = 55.57, SD = 7.56; God-Mediated Control, Mean = 28.27, SD = 11.43.

The reliability of each of the three factors was established using Cronbach's alpha as a measure of internal consistency.

Coefficient Alpha was .85 for General External Control, .88 for Exaggerated Internal Control, and .97 for God-Mediated control suggesting that all factors possess satisfactory internal consistency.

Construct Validity

Factor scores were correlated with scores of the five theoretically related measures. All correlations were similar in directions and magnitude to those obtained with the original BPCS (see Table 2). The significant correlations between General External Control, depression, anxiety, and self-esteem parallel previous findings and thus, support the construct validity of this factor. That is, individuals who are more external in their control beliefs tend toward greater depression and anxiety, and lower self-esteem. Likewise, the obtained correlation between Exaggerated Internal Control and mania supports the notion that this factor represents a dimension of control characterized at the internal end by zealous, overstriving, assertive optimism. Finally, as expected, there is at best only a marginal relationship between a belief in God-mediated control, depression, anxiety, and self-esteem, suggesting that God-mediated controllers differ from internals and externals as defined traditionally.

Insert Table 2 about here

Based on the results of Study I, it appears that the 45 item BPCS-RS is comparable to the 85 item BPCS with respect to both its three factor structure and the relationship of those factors to theoretically relevant constructs. Furthermore, the three factors show a high degree of internal consistency as measured by coefficient alpha.

Study II

The purpose of Study II was to, 1) establish the temporal reliability of the BPCS-RS, and, 2) examine the convergent relationship between the BPCS-RS and the BPCS.

Participants and Procedures

Fifty eight undergraduates (37 females and 21 males) with a mean age of 26.14 participated in the study in order to earn extra course credit. Participants responded to the BPCS-RS on two separate occasions with a four week interval between testing sessions. During the first test session, they also completed the 85 item BPCS. Following the final testing session, they were given a full explanation of the study.

Results and Discussion

Test-Retest Reliability

To provide some indication of the temporal stability of the three BPCS-RS factors, four week test-retest reliability was computed. The test-retest coefficient was .81 for General External Control, .85 for Exaggerated Control, and .93 for God-Mediated Control. The magnitude of these coefficients provides satisfactory support for the temporal stability of the BPCS-RS factors. Furthermore, they are consistent with the four week test-retest coefficients of the original BPCS which were .80, .87, and .97 for the three factors respectively (Berrenberg, 1987).

Convergent Validity

Factor scores for the BPCS-RS were correlated with those of the original BPCS. The results show a high degree of overlap between the factors (see Table 2) suggesting that the factors of the BPCS-RS measure constructs that are virtually identical to those measured by the BPCS.

Study III

Taken together, the findings of Studies I and II support the notion that the BPCS-RS is a reliable and valid measure of personal control that is essentially equivalent to the longer BPCS. Study III was undertaken in order to provide additional

support for the validity of God-Mediated Control factor of the BPCS-RS. A sample of seminary graduate students was compared to a sample of psychology graduate students. It was hypothesized that the seminary students would hold a significantly stronger belief in God-Mediated control than the psychology students.

Participants and Procedures

Forty-eight seminary graduate students (18 females and 30 males) and 34 psychology graduate students (20 females and 11 males) volunteered to complete the BPCS-RS as part of a study dealing with individual differences in beliefs and attitudes.

Results and Discussion

Factor scores for the two samples were computed and compared using *t*-tests. The General External Control factor means for the psychology and seminary students were 68.46 and 69.00 respectively. These means did not differ significantly ($t < 1.00$). Neither did psychology and seminary students differ with respect to Exaggerated Internal Control (55.37 versus 55.64, $t < 1.00$). However, the means on the nine item God-Mediated Control factor of the BPCS-RS for the psychology and seminary samples were 29.25 and 20.67 respectively. These means are significantly different ($t(80) = 2.54$, $p < .01$) indicating that, as expected, seminary students report a stronger belief in

God-Mediated Control than psychology students. This finding provides additional support for the construct validity of the God-Mediated factor of the BPCS-RS.

Study IV

A final study was undertaken in order to futher demonostrate the validity of the Exaggerated Control scale of the BPCS-RS. College students completed the BPCS-RS along with a questionnaire asking them to predict their probability of winning a state lottery. It was predicted that individuals with higher scores on Exaggerated Internal Control, because they believe themselves to have greater than average control over their lives, would generalize this exaggerated sense of control to chance outcomes.

Participants and Procedures

Thirty-four undergraduate psychology majors (25 females and 9 males) participated in the study in order to earn extra course credit. Participants completed the BPCS-RS and responded to a question asking them to estimate their probability (from 0% to 100%) of winning the state lottery with a single lottery ticket.

Results and Discussion

Participants' scores on the 18 item Exaggerated Internal Control scale of the BPCS-RS were correlated with their estimated probabilities of winning the lottery. The correlation was

significant ($r(32) = .29$, $p < .05$) confirming the prediction that high Exaggerated Controllers felt their chances of winning the lottery were greater than individuals low on the Exaggerated Internal Control scale. This finding supports the validity of the Exaggerated Internal Control subscale in suggesting that it measures an extreme belief in personal control that extends even to chance determined outcomes.

General Discussion

The combined findings of the four studies provide ample support for the BPCS-RS as a reliable and valid measure of personal control that is comparable in all respects to the longer, original version of the scale. The BPCS-RS has the same three-factor structure as the BPCS, its three factors show almost complete overlap with those of the BPCS, and it shows the same pattern of correlations with measures of theoretically relevant constructs as the BPCS. Beyond this additional evidence for the validity of the Exaggerated Internal Control and God-Mediated Control factors was provided in this study.

It is hoped that the BPCS-RS will provide a more efficient means of measuring and thus, of studying the theoretical and applied aspects of the three identified dimensions of control. For example the clinical significance of exaggerated internality

in certain dysfunctional populations (e.g., manics, compulsive gamblers, anti-social personalities etc.) is a relatively unexplored, but potentially fruitful, area of study.

Another interesting research use of the BPCS-RS would be in examining the role played by God-mediated control in coping. The relevance of this is best seen in light of the two-process control theory of Rothbaum, Weisz, and Snyder (1982) which posits the existence of secondary control as a passive means of controlling outcomes. One type of secondary control is vicarious control which confers a sense of agency via alliance with powerful forces. It has been shown that vicarious control enhances one's ability to cope with cancer (Taylor, Lichtman, & Wood 1984). However, to date, the study of vicarious control - indeed all aspects of secondary control - has been hampered by the lack of reliable and valid instruments. The God-mediated control factor of the BPCS-RS provides a reliable and valid measure for exploring further the role that vicarious control plays in coping.

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Table 1

Factor Loadings for BPCS-RS Items

BPCS-RS Items	Loadings		
	Factor 1	Factor 2	Factor 3
1. I can make things happen easily.	.06	.60	.10
2. Getting what you want is a matter of knowing the right people.	.38	-.27	.26
3. My behavior is dictated by the demands of society.	.26	.06	-.04
4. If I just keep trying, I can overcome any obstacle.	.21	.54	.00
5. I can succeed with God's help.	-.06	.00	.90
6. I find that luck plays a bigger role in my life than my ability.	.67	.15	.04
7. If nothing is happening, I go out and make it happen.	.12	.58	.08
8. I am solely responsible for the outcomes in my life.	.26	.34	.12

Table 1 continued

	BPCS-RS Items	Loadings Factor 1	Factor 2	Factor 3
9.	I rely on God to help me control my life.	-.05	.07	.92
10.	Regardless of the obstacles, I refuse to quit trying.	.10	.70	-.10
11.	My success is a matter of luck.	.57	.08	.04
12.	Getting what you want is a matter of being in the right place at the right time.	.49	.01	-.01
13.	I am able to control effectively the behavior of others.	-.02	.34	-.09
14.	If I need help, I know that God is there for me.	-.07	-.04	.93
15.	I feel that other people have more control over my life than I do.	.59	.06	.04
16.	There is little that I can do to change my destiny.	.60	.21	.06

	BPCS-RS Items	Loading Factor 1	Factor 2	Factor 3
17.	I feel that I control my life as much as is humanly possible.	.22	.45	.00
18.	God rewards me if I obey his laws.	-.03	.04	.91
19.	I am not the master of my own fate.	.59	.26	.12
20.	I continue to strive for a goal long after others would have given up.	.17	.68	-.15
21.	Most things in my life I just can't control.	.39	.16	.00
22.	God helps me to control my life.	-.11	.00	.94
23.	I have more control over my life than other people have over theirs.	.05	.55	-.04
24.	I actively strive to make things happen for myself.	.15	.77	-.09

	BPCS-RS Items	Loading Factor 1	Factor 2	Factor 3
25.	Other people hinder my ability to direct my life.	.49	-.15	-.04
26.	What happens to me is a matter of good or bad fortune.	.63	.07	-.07
27.	When something stands in my way, I go around it.	.07	.58	.18
28.	I can be whatever I want to be.	.21	.61	.00
29.	I know how to get what I want from others.	.01	.50	.02
30.	Fate can be blamed for my failures.	.68	-.08	-.09
31.	With God's help, I can be whatever I want to be.	-.05	.00	.94
32.	I am the victim of circumstances beyond my control.	.63	.13	.02
33.	I can control my own thoughts.	.31	.23	.05
34.	There is nothing than happens to me that I don't control.	.15	.47	-.01

	BPCS-RS Items	Loading Factor 1	Factor 2	Factor 3
35.	Whenever I run up against some obstacle, I strive even harder to overcome it and reach my goal.	.13	.79	-.02
36.	By placing my life in God's hands, I can accomplish anything.	-.06	.06	.94
37.	I am at the mercy of my physical impulses.	.45	-.10	.02
38.	In this life, what happens to me is determined by my fate.	.67	.08	-.04
39.	My actions are the result of God working through me.	-.04	-.03	.88
40.	I am the victim of social forces.	.52	.16	-.06
41.	Controlling my life involves mind over matter.	-.02	.46	.08
42.	When I want something, I assert myself in order to get it.	-.02	.79	.01

	BPCS-RS Items	Loading Factor 1	Factor 2	Factor 3
43.	The unconscious mind, over which I have no control, directs my life.	.52	.02	-.11
44.	If I really want something, I pray to God to bring it to me.	.23	.02	.78
45.	I am not really in control of the outcomes in my life.	.59	.16	-.04

Table 2

Correlations Between the BPCS, BPCS-RS and other Scales.

	BPCS-RS General	BPCS-RS Exag	BPCS-RS God-Med	BPCS General	BPCS Exag	BPCS God-Med
BPCS-RS General		.38 (233)	-.02 (233)	.85 (35)		
BPCS-RS Exag			.00 (233)		.91 (35)	
BPCS-RS God-Med						.95 (35)
Anxiety	-.45 (233)	-.28 (233)	.10 (233)	-.49 (445)	-.30 (445)	-.07 (445)
Depression	-.49 (233)	-.44 (233)	.18 (233)	-.46 (445)	-.47 (445)	-.10 (445)
IE	-.56 (233)	-.32 (233)	.04 (233)	-.55 (445)	-.36 (445)	-.08 (445)
Mania	.05 (233)	.37 (233)	.09 (233)	.02 (445)	.30 (445)	.05 (445)
Self-Esteem	.46 (233)	.56 (233)	.12 (233)	.45 (445)	.45 (445)	.07 (445)

*p < .05 ** p < .001

Note. Data for the BPCS based on n=445 were taken from Berrenberg, J. L. The belief in personal control scale: A measure of God-mediated and exaggerated control. Journal of Personality Assessment, 1987, 51, 194-206.